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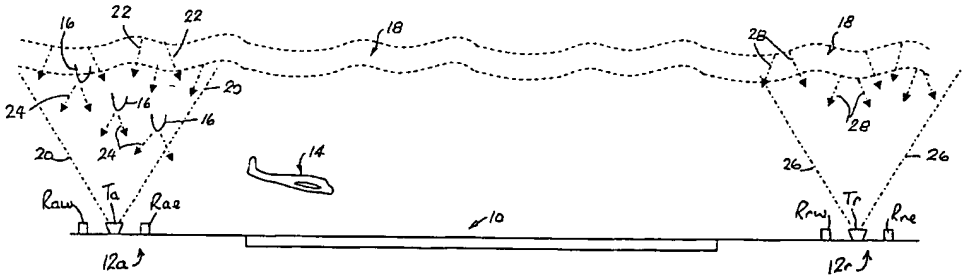
(54) Title: DETECTION OF WAKE VORTICES AND THE LIKE IN THE LOWER ATMOSPHERE




(57) Abstract: Two SODAR systems (12a and 12r) for detecting and characterizing vortices (16) shed from landing or departing aircraft (14) at an airport (10) are positioned so that one, the active system (12a) is located beneath likely vortices (16) and the other, the reference system (12r) is located away from the vortices but in the same ambient environment. Thus, where a wind duct or thermal inversion (18) is present, both SODAR systems will detect echoes (22 and 28) generated thereby, whereas only the active system (12a) will detect echoes (24) from wake vortices (16). By differencing the outputs of the reference and active systems, better vortex identification and discrimination is achieved. Only one SODAR system need be used where there sufficiently normal conditions prevail between aircraft activity, since readings taken in the absence of aircraft can be used as reference data for subtraction from 'active' data recorded during the presence of an aircraft.

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